ABSTRACT

A method and system for leading macromolecule substances into target cells includes an image picking unit, an image merging unit, an injection unit, and an energy conversion module. The image picking unit is used for picking up the three-dimensional (3D) and the 3D blood vessel photographic images of the tissue or organ where the target cells locate. The image merging unit is used for merging the 3D structure images into the 3D blood vessel photographic images, therefore choosing a blood vessel passage fully covering the target cells for transmitting the macromolecule substances. The injection unit is used for injecting liquid and transmitting the macromolecule substances to the target cells. The energy conversion module is used for exerting energy to activate the liquid to perform biological effects, thereby forming non-permanent holes in the cell membranes of the target cells. The macromolecule substances enter into the target cells through the non-permanent holes.